ALASKA INDUSTRY COUNCIL MEETING
MINUTES
June 9, 2010

The Alaska Industry Council met at the Alaska DOT/PF Building on June 9, 2010, at 10:00 A.M.

The following agenda items were presented:

Introductions	Round Table
Opening Remarks	Jere Hayslett, FAA
Navigation Services Update	JoAnn Ford, FAA
Surveillance and Broadcast Services Update	Jere Hayslett, FAA
Information Sharing	All
Industry Feedback (Round Table)	All

Opening Remarks – Jere Hayslett

Jere Hayslett opened and chaired the meeting.

Navigation Services Update – JoAnn Ford

JoAnn updated the group concerning status for the following three items:

- WAAS Aircraft Equipage
- LPV Surveys for Alaska
- WAAS GEO Galaxy 15 Issues

2009 – 2013 WAAS related Program Goals are as follows:

- Increased Safety, Reduce general aviation fatalities
  - Develop and publish 500 WAAS Approach Procedures (LPV & LP) Per Year.
  - Increase Access via Precision Approach to all qualifying runways in the NAS.
- NextGen Initiatives
  - Enabler of Automatic Dependent Surveillance Broadcast (ADS-B) Terminal Services.
  - Enabler of Position Navigation and Timing (PNT) Services for Area Navigation /Required Navigation Performance (RNAV/RNP) Routes and Procedures to Support Flexibility in Terminal Environment, Increased Arrival/Departures at High Density Airports, Trajectory Based Operations.
- RNP/RNAV Helicopter Departure Procedures
  - Development of low altitude IFR vertical flight infrastructure system.

  - Develop WAAS LPV Point In Space Procedures.
- Reduced Accidents in Alaska
  - Implement an improved statewide public RNAV/RNP WAAS-enabled route structure in Alaska.
  - Publish RNAV LPV/LP approach procedures to runways in Alaska.

WAAS Equipage (list not all-inclusive)

- GARMIN, Universal, Rockwell-Collins, Avidyne, Esterline/CMC and others
- Approx 35,000 Aircraft Equipped (TSO-145 or TSO-146)
- Approx 54,000 WAAS Receivers and Up- Graded Receivers purchased.

LPV Procedures Published to Date
(Current and all prior years)

LPVs Published to non-ILS Runways	1284
LPVs Published to ILS Runways	842
Cumulative LPVs Published to Date	2,126

LPVs Published to <250' Decision Altitude 306

Alaska LPV Approaches

- Total 57 - Current LPV approaches (as of 06/03/2010)
- AVN website: includes LPVs from all sources of FAA and AIP funding, private and public approaches)

Alaska Projected **LPVs**

- 07/29/10 PABR Barrow/Wiley Post-Will Rogers
- 06/30/11 PAKU Kuparuk/Ugnu-Kuparuk
- 05/05/11 PAWS Wasilla

WAAS GEO Galaxy 15

- **WAAS Currently Leases Two GEOs**
  - Intelsat (CRW) at 133 W
  - Telesat (CRE) at 107.3 W
- **Intelsat (CRW) TT&C Has Failed**
  - Provider Lost Ability to Control the GEO's Position on April 3rd
  - GEO Will Drift Out of Useable Orbit Over Next 2-4 Weeks
- **Loss of WAAS Service in NW Alaska is Imminent**
  - No Impact to LPV Service at the 16 Affected Airports
    - No LPV approaches published at these airports
  - LNAV Service Available Using GPS Only
  - Enroute/Terminal Service Including Q-Routes Available with Receiver Autonomous Integrity Monitoring (RAIM)
  - Users Will Need to Plan Around RAIM Availability
    - Requires a pre-flight RAIM prediction

NAS Impacts

- **Users Outside the Affected Area Will Continue to Have LPV service**
- **Due to Lack of Redundant GEO Coverage, WAAS Users May Experience Temporary Service Interruptions**
  - If WAAS GEO Uplink Station (GUS) Switchovers Occur
    - Potential to Occur 3-5 Times per Year
  - Up to 5 Minutes May be Required to Restore LPV Service
- **Single Point Failure Situation Exists Until Redundancy Restored**
  - WAAS Team Integrating Gap Filler GEO (AMR) at this Time
  - Planned for December 2010

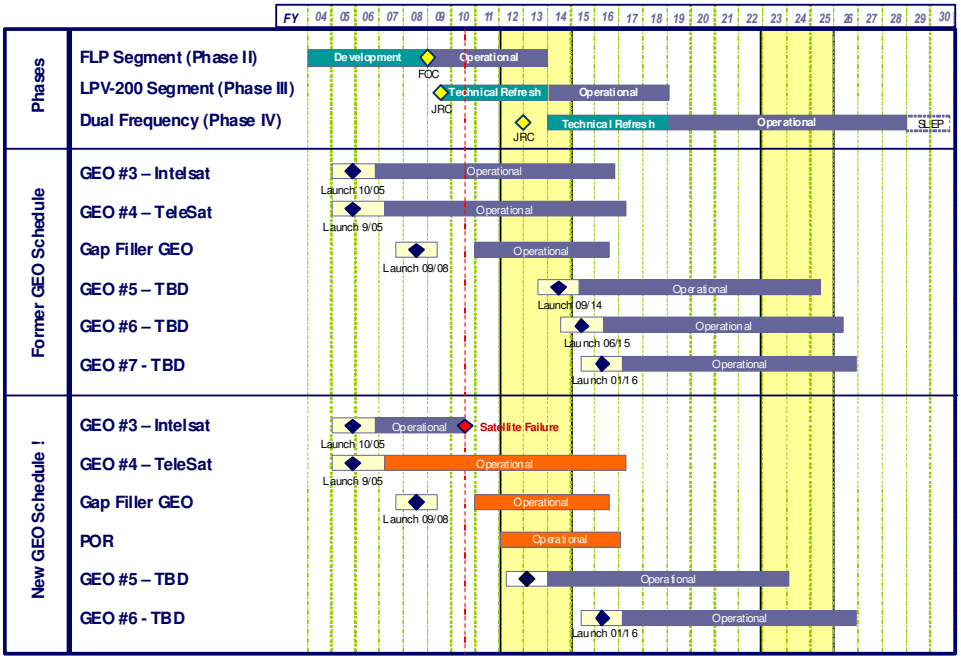
Alaska Airport Impacts

FAA ID	Name of Airport	Part 139	Runway	LPV Impact	Lowest GPS LNAV minima
ADK	Adak		23	N/A	1300 - 3
ATK	Atqasuk Edward Burnell Sr Memorial		06/24	N/A	400 - 1
AWI	Wainwright		23	N/A	400 – 1
BRW	Wiley Post-Will Rogers Memoorial		24	N/A	400 - 1
DEE	Deering		02/11/20	N/A	600 - 1
GAM	Gambell		16/34	N/A	800 - 1
IAN	Bob Baker Mem.		06	N/A	1300 - 1 1/4
IWK	Wales		18	N/A	600 - 1
KVL	Kivalina		12/13	N/A	400 - 1
OME	Nome		28	N/A	400 - 3/4
OTZ	Ralph Wien Memorial		09	N/A	400 - 1
PHO	Point Hope		19	N/A	300 - 1
PIZ	Point Lay LRRS		05/23	N/A	400 - 1
SHH	Shishmaref		05	N/A	300 - 1
SVA	Savoonga		05	N/A	500 - 1
TER	Teller		07	N/A	800 - 1

Mitigations

- **Investigate Integration of Inmarsat-III Pacific Ocean Region GEO**
  - Formerly used by WAAS Prior to Switching to Intelsat (CRW)
  - Lockheed Martin Working this with AJW-431
- **Accelerate Procurement of 5th GEO**
  - Will Replan Resources Saved from Loss of CRW
- **Publish Advisory NOTAM - Complete**
- **Publish Final NOTAM Prior to Loss of GEO**
  - Format and Content Being Coordinated with AFS
- **Investigate Accelerating Gap Filler GEO Integration**
  - Potential to Implement as Emergency Release

Updated WAAS Enterprise Schedule



Next Steps

- Continue to Monitor GEO Performance
- Determine Date to Issue Final NOTAMs
- Continue Action Plans for Mitigations

National ADS-B Update – Jere Hayslett

Jere presented an update on the ADS-B Key Sites as follows:

- **Essential Services**
  - Miami Area In Service Decision – November 2008√
- **Critical Services**
  - Louisville Initial Operating Capability (IOC) – November 2009√
  - Gulf of Mexico IOC –December 2009√
  - Philadelphia IOC – March 2010√
  - Juneau IOC – April 2010 √
  - In Service Decision – September 2010

Overview

- **On May 27, 2010, the FAA published the Final Rule for ADS-B Out equipage**
  - This rule mandates performance requirements for ADS-B avionics that will be required to fly in certain airspace.
  - ADS-B Out transmits location information received from the Global Navigation Satellite System out of the aircraft to ADS-B ground stations and to other aircraft equipped to receive ADS-B broadcasts. The rule does not preclude other navigation source methods.
  - This rule does not mandate ADS-B In.

- A new Aviation Rulemaking Committee (ARC) will be chartered in June 2010 to address ADS-B In strategy.

Dual Frequencies

- **Two frequencies have been designated for ADS-B transmissions in the national airspace system:**
    1. 1090 Extended Squitter MHz (1090ES) for commercial aircraft.
    2. Universal Access Transceiver 978MHz (UAT) for general aviation and airport vehicles. This frequency is needed because of the high-bandwidth required to transmit the weather data that is most beneficial for general aviation aircraft.
- The rule requires all aircraft flying in Class A airspace (Flight Level 180 and above) to transmit on the 1090ES MHz link.
- The rule does not preclude aircraft from equipping with both the 1090ES MHz and 978MHz or general aviation equipping with 1090ES MHz.

Timeline

- **The final rule establishes 2020 as the date by which all aircraft flying in the designated airspace must be equipped with ADS-B Out avionics**
    - This gives aircraft owners time to determine the most cost-effective solution for the mix of aircraft in their fleets.
    - Because of the efficiencies that come with ADS-B, the FAA expects that most air-transport category aircraft will be equipped by 2015 with only stragglers waiting until the 2020 deadline.

Airspace

- **ADS-B Performance is required in the following airspace:**
    - Class A, B, and C airspace.
    - Class E airspace areas at or above 10,000 feet MSL over the 48 contiguous United States and the District of Columbia, excluding the airspace at and below 2,500 feet above the surface.
    - Airspace within 30 nautical miles (NM) of certain identified airports that are among the nation's busiest (based on annual passenger enplanements, annual airport operations count, and operational complexity) from the surface up to 10,000 feet MSL. These airports are listed in appendix D to part 91.
    - Above the ceiling and within the lateral boundaries of a Class B or Class C airspace area up to 10,000 feet mean sea level (MSL).
    - Class E airspace over the Gulf of Mexico at and above 3,000 feet MSL within 12 NM of the coastline of the United States.

Guidance Documents

- **The Technical Service Orders (TSOs) for ADS-B avionics were approved in December 2009. The final rule requires:**
    - Equipment designed to use the 1090ES frequency must meet TSO-C166b or later versions of this order; and
    - Equipment designed to use the UAT frequency must meet TSO-C154c or later versions of this order.

- **Advisory Circular**
  - AC 20-165 provides installation guidance for ADS-B Out systems.

Final Rule

Available at:

- http://www.regulations.gov

(Docket No. FAA–2007–29305; RIN 2120–AI92)

Full link:

- http://www.regulations.gov/search/Regs/home.html#documentDetail?R=0900006480af5d4b

Implementation Status: June 7, 2010

- 321 radios planned by September 2010
- 245 sites constructed (237 in CONUS; 8 in AK)
- 40 radio sites currently operating (ZMA, Gulf, SDF, PHL, JNU)
- 76 sites are in progress: 32 more in June; 14 in July; 30 in Aug-Sep

Alaska ADS-B Ground Station Installation

Alaska Ground Infrastructure Deployment

	% Complete	Complete	Jun	Jul	Aug	Sep
SV-178 Juneau En Route	67%	2		1		
SV-324 Southeast Alaska En Route	56%	5	2		1	1
SV-329 Anchorage - Fairbanks En Route	33%	1	1	1		
SV-332 McGrath - Upper Kuskokwim En Route	0%				2	
SV-333 Yukon - Kuskokwim Delta En Route	0%		3	3	1	1
SV-334 Nome - Seward Peninsula En Route	0%		1	1	1	1
SV-336 Kotzebue - Northwest Alaska En Route	0%		1	1	2	
TOTAL	**24%**	**8**	**8**	**7**	**7**	**3**
Cumulative		**8**	**16**	**23**	**30**	**33**
Cumulative		**24.2%**	**48.5%**	**69.7%**	**90.9%**	**100.0%**

Automated Weather Observation System (AWOS) Update:

- Noorvik - plant and electronics work is 98% complete. JAI for Noorvik is on hold pending availability of a circuit in ZAN. The ZAN circuits are being modified this month. JAI expected in September 2010.
- Brevig Mission - lease signed; building is on-site. Installation planned for June – August 2010. Power will not be available until August. The ZAN circuits are being modified this month. JAI expected in September 2010.
- White Mountain - lease signed, building is on-site. Installation expected in July - August. Power is available.
- Elim – Notice of actual construction or alteration (Form 7460) completed; building permit and lease in process. Construction is planned for 2011.

Round Table

There were no comments for the Round Table Discussion and the meeting was adjourned at 11:55 AM.